

HAC 97

**Excavations at The Hackness Gun Battery, South Walls,
Orkney**

Data Structure Report

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Summary

Excavations continued at Hackness Gun Battery in 1999 with work concentrating mainly on the gun platforms. Two trenches were excavated encompassing all of the 1866 platforms. The eight original racers were found to have been removed by later robber trenches. There was also evidence of earlier gun racers that had been truncated by the 1866 refurbishment. One area of paving relating to the 1815 period was found undisturbed in the south-west corner. All finds related to the 19th and 20th centuries. Examination of geophysical anomalies to the east of the gun battery revealed a probable prehistoric burial cairn. Further work was undertaken in the magazine and a strip of the missing northern bank was reconstructed.

1 INTRODUCTION

An archaeological investigation was undertaken by Headland Archaeology Ltd at Hackness Gun Battery in June/July 1999. The work was commissioned by Historic Scotland who also funded the investigation. The archaeological investigation was intended to provide information on the layout of the 1866 gun battery as well as providing data on the earlier 1815 gun battery. Trenches were also excavated to the east of the gun battery to investigate geophysical anomalies, while work followed on from the 1997 investigation of the magazine.

2 HISTORICAL BACKGROUND

Hackness Battery, alongside the associated Martello towers at Hackness and Crockness, was constructed between 1813 and 1815 to guard the convoy anchorage at Longhope against the raids of American privateers. The battery was originally intended to be constructed alone, but on the recommendations of Major Smyth, who planned the structure at the request of the Admiralty, the two towers were added to protect the battery from land assault.

Situated east from the point of Hackness, the battery commands the approaches to Longhope from the Pentland Firth via Switha Sound and Cantish Sound. There is less than a mile of water between the battery and the shore of Flotta to the north-east, a distance well within the range of 24-pounder cannon. The rear of the battery was protected by Hackness Martello Tower, situated 150 m to the south-east. This tower covered the northern approach to Longhope via Gutter Sound or Weddel Sound. When firing south, the Crockness gun would also have provided an overlapping fire to assist the guns on the Hackness side of Longhope. Taken jointly, the three fortifications would have formed a formidable defence against any seaborne attack.

The battery, which was built by Lieutenant Skene, originally comprised eight 24-pounder cannons *en barbette* mounted in V-formation on timber traversing carriages allowing the entire width of the sound to be covered. A report dated 1st August 1815 by Lieutenant Colonel Morshead described the battery as “mounting eight 24-pounder guns upon traversing platforms, constructed with an earthen parapet, having an interior retaining wall, banquette and curbs for the tracks founded in stone and cast iron racers”. Behind the cannons was the soldiers’ barrack room and store and behind that, the magazine, a small rectangular structure with a brick vaulted roof, sunk below ground and protected by a bank. The springs of the brick arch still survive and at one time there was a timber floor, a common feature in a magazine as it prevented sparking if an object was dropped on the floor. The structure could hold 350 barrels of powder. A porch and door were situated on the north-east. The descent into the sunken area was by a flight of steps near the southern corner of the rear, or south-west side.

In 1866 the defences at Hackness were remodelled in response to a perceived threat from Fenians based in America. Four 68-pounder cannons firing through embrasures in a new battery wall replaced the 24-pounder guns. An ammunition store was added behind the salient of the rampart and separate accommodation was added to the barracks for the use of NCO’s. Other new buildings included a guard house, officers’ quarters, a cookhouse, stores and ablutions block and separate latrine block. An additional magazine was constructed around 1892 when the 68-pounds were used for the first time by the Orkney Volunteer Artillery. The battery was manned during WWI by the naval personnel who operated the boom defence

guarding one of the entrances to Scapa Flow but it was not used during the WWII defence of Orkney.

3 ARCHAEOLOGICAL BACKGROUND

This seasons work followed on from previous investigations undertaken by Headland Archaeology Ltd in 1997. During the earlier investigation, a series of well preserved structures and deposits were found to relate to the structural development of the monument. Fragmentary remains of the 1815 battery were found to have been truncated by the 1866 refurbishment. The magazine and shifting room were fully excavated and found to be well preserved. Further investigation included sample excavation of the surrounding perimeter ditch and investigation of the nature of the magazine drain.

4 OBJECTIVES AND STRATEGY

The objectives, as stated in the written Scheme of Investigation supplied by Headland Archaeology Ltd, were to further investigate the nature and extent of the battery in order that it could be conserved and restored to its original 1866 state. A total of five objectives were agreed after discussions with Historic Scotland:

9. Complete excavation and recording of the gun platforms.
2. Investigation of the large circular anomaly to the east of the gun battery as identified during geophysical survey.
3. Investigation of the possible rectangular structure to the east of the gun battery as identified during geophysical survey.
4. Complete excavation of the stairway identified in the north-west of the magazine.
5. Establish profiles for earthworks surrounding the magazine and reconstruct the north-west corner of the bank.

Each trench was given a code in accordance with the project design supplied by Headland Archaeology Ltd.

5 METHODOLOGY

5.1 EXCAVATION (*Figure 1*)

A total of four trenches were de-turfed and cleaned by hand. Trench A comprised the two northern gun platforms. Trench B incorporated the 1997 trench D and encompassed the southern gun platforms. Trench C investigated the large circular anomaly, while Trench D was located over the possible rectangular structure. Trenches C and D were backfilled, while trenches A and B were left open in line with instructions from Historic Scotland.

5.2 ARTEFACTS

All objects were catalogued and drawn where appropriate.

6 RESULTS

6.1 TRENCH A

This trench was located on the northern side of the gun platform. The whole trench was de-turfed and cleaned by hand.

1815 Gun Battery (Figure 2)

There was limited evidence for any earlier activity in the northern gun platforms. The footings of the original retaining wall (108) were noted on the inside of the existing battery wall. This survived as a wall constructed of yellow sandstone bonded with mortar. It had been cut by the insertion of the later 1866 inner racers and also formed a foundation for the later rampart. The internal face was clearly visible but the external face underlay the rampart.

Two further features relating to the 1815 activity were also noted. Situated between robber trench cuts 100 and 126 was the truncated remains of a small stone box (131). It measured 0.56 by 0.5 m and had a solid sandstone base. The sides of the box had been disturbed but the original form was visible. It underlay the backfill of cut 126 and was clearly earlier despite its position between the two later racer cuts. A similar feature (118) was also noted between racer cuts 099 and 117. It comprised sub-angular slabs bonded with a pale yellow mortar. Its dimensions were 0.49 by 0.4 m and it underlay the backfill of racer cut 117.

1866 Refurbishment (Figures 2, 6, 7, 8 & 9)

Removal of the turf and topsoil (090) revealed a layer of mixed beach and pea gravel (008) which formed the final grading surface for the 1866 gun battery.

Two embrasures were situated in front of the two northern gun platforms and associated with each of these, were the robber trenches for the front and rear racer trenches which would have supported the gun carriages. Depressions in the ground were visible outlining the backfilled cuts. At the northernmost gun platform, layer 101 was a mid grey brown sandy silt with frequent inclusions of large and small rubble. This was excavated and found to have a maximum depth of 0.3 m. It filled the rear racer cut 100. This curvilinear cut had a maximum width of 2 m and a length of 10 m. Definite edges were noted towards the south of the cut, but at the northern end, the trench appeared to have been cut through natural gravels. Finds retrieved from layer 101 included bricks, pottery and a paintbrush. Directly on the inside of the embrasure, layer 127 was a mid brown silty sand with 50% gravel and some large angular and rounded rubble. It was a very mixed layer resulting from the backfilling of the cut after removal of the guns and stone foundations. This layer filled the full extent of curvilinear cut 126 which measured 4.8 m in length and 2 m in width. The maximum depth of this cut was 0.48 m.

A ceramic drain (122) was identified in the outside edge of cut (100). It lay within a U-shaped cut (121) which measured 1 m in width and 0.45 m in depth. The drain was filled with a grey brown sandy silt (124) and had a maximum depth of 0.08 m. It dipped downwards away from the racer cut and it is likely to have been associated with the racer. The drain cut was subsequently filled with multi-coloured clays (123).

A similar picture was noted at the southern gun platform. Removal of the turf and topsoil (090) revealed a mid to dark grey sand silt and loam with a high percentage of gravel (098). Small angular and rounded rubble was noted in the fill and there was a concentration of stone slabs on the eastern side of the cut (113). These were angling down towards the base of the cut and were possibly the remains of a revetment. Both these contexts lay within the rear robber trench cut (099) which was 10 m in length, 1.9 m in width and had a maximum depth of 0.3 m. The outside edge of the cut sloped moderately to the base, while the inside was near vertical. The front robber trench (117) was filled with a light grey brown sandy loam with a high percentage of gravel (116). Within this backfill, a concentration of loose demolition rubble up to 0.6 m in diameter (114) tipping in various directions was also noted.

There was no evidence for an associated drain to the west of cut 099. Investigation of linear depression 103 running north-south, however, revealed the presence of a ceramic drain (182) similar to drain 122. This appeared to be sloping downwards away from robber trench 099. It lay within cut 181 which was filled with a dark brown silty loam (183).

20th Century Activity

Two features were found to be lying over gravel 008 and were of 20th Century date (J Cload pers. comm.). The first of these was a remnant paved surface (104). This was located in the north of the trench and comprised four flat slabs forming no coherent pattern. The largest of these stones measured 0.4 m in diameter and it is possible that they represented the remains of footings for a 20th century structure. To the east of this paving, the basal footings for a structure were noted (109). These comprised flat angular stones forming an L-shaped structure. It measured 5 m in length and 0.4 m in width. There was only one course of stones and these overlay the backfill of racer cut 126. Discussion with the present occupant revealed that they were the footings for a greenhouse (J. Cload pers. comm.).

A linear depression running roughly south east - north west (103) was noted in the southern half of the trench. It measured 7 m in length, was 0.3 m wide but only had a maximum depth of 0.04 m. Given its minimal depth, it is impossible to assign a function to this feature, but given that it overlay drain 182, which was associated with 1866 activity, it must be assumed that it was of a later date.

A possible drain running east-west was noted at the northern edge of the trench. It ran the entire width of the trench and had a width of 0.35 m. The cut (106/172) was U-shaped in profile and had a maximum depth of 0.18 m. Underlying the cut was a layer of decayed sandstone (174) but this was later discounted as a natural layer. The cut was filled with a dark brown silty loam with 20% small angular and rounded stones (107/173). There was no drain present and the function of this feature was not entirely clear. There was no artefactual evidence retrieved from the fill and there was no stratigraphic relationship. However, given that it cut the general gravel layer (008) assigned to the 1866 refurbishment, the feature must relate to the later period.

6.2 TRENCH B

This trench was located in the southern half of the gun battery and incorporated trench D from the 1997 excavations. Spoil from those excavations was removed and the remainder of the trench was de-turfed and cleaned by hand.

1815 Gun Battery (Figures 2, 10 & 11)

A number of features were noted relating to the 1815 period. As in trench A, the footings for the original retaining wall (105) were noted underlying the later 1866 rampart, probably acting as foundations. The stone used was a mix of bluestone and sandstone and was bonded with a light yellow mortar. In some places the wall survived to a height of three courses, but had been truncated during the 1866 refurbishment with the insertion of the front racer cuts 083 and 129.

The original plans for the 1815 gun battery showed an arrangement of four cannon on either side of the retaining wall. Although none of these original gun platforms were found in trench A, three were found in trench B. They were in varying states of preservation and had been truncated by later activity. The most southerly racer (115) was constructed using bluestone and sandstone bonded with a light yellow mortar. It was 0.6 m wide and 0.3 m in height. It overlay the natural subsoil (132) and bedrock (110). The whole racer was not visible as the southern half was out with the limits of the trench. Furthermore, it had been truncated approximately in its centre by the 1866 racer cut 066. To the north of this racer, was the remnants of another racer (151). It was severely truncated at both ends by the insertion of the 1866 gun platforms. As a result, only a 1 m length survived. The structure had a slight curve and was of similar construction to racer 115. A possible fragment of a third racer (155) was also noted in this trench. A small fragment of similarly bonded bluestone was recorded in the base of the 1866 racer cut 095. It was situated in the south west edge of the later cut and measured 2.4 m in length and had a surviving width of 0.64 m. It had clearly been cut by the later insertion of the racer blocks but it was still possible to determine that it was curving.

Located in the south west corner of the trench, directly to the west of racer 115, an area of paving (160) was noted. It was overlain by a layer of lime mortar (159) which may have been levelling over the paving associated with the 1866 refurbishment. This lime mortar was overlain by a brown loam with occasional flat stones (158) which lay under the general gravel layer (008). The area of paving had a width of 2.3 m but the length could not be determined as it continued under the southern section of the trench. It comprised flat bluestone slabs that

were up to 0.7 m in diameter. They appeared to respect the curve of racer 115 on their outer edge and it is possible that they acted as hard standing when the gun was in use.

As in trench A, two small square stone structures were noted between both of the 1866 front and rear racer cuts. The position of these stone boxes at first suggested that they were associated with the 1866 activity. However, investigation of these proved otherwise. Stone structure 156 was located between racer cuts 095 and 129. It was slightly offset to the embrasure in the rampart and only partially survived. It was constructed of sandstone and bluestone and was bonded with mortar. It underlay a layer of hardcore (092) which was associated with the 1866 refurbishment and has, therefore, been assigned to the 1815 phase. Similarly, another stone structure (157) was situated between racer cuts 066 and 083 in the south of the trench. It was in a better state of preservation and measured 0.9 by 1 m. It was constructed of sandstone and was slightly offset to the embrasure in the rampart. This structure had been excavated during the 1997 excavations and was assigned to the 1815 phase.

1866 Refurbishment (Figures 2, 4 & 5)

The most southerly racer trenches had been part excavated during the 1997 excavations. These were fully excavated and recorded during this season's work. The front racer cut had been completely removed by a robber trench (083) and was filled with a dark brown silty sand with 40 % gravel and small rubble (082). The depth of this material was 0.35 m but other deposits were found within this robber trench. At the northern edge of the cut, a deposit of light yellow mortar (111) was noted. This layer was quite dirty and it is thought that this was part of the backfilling of the robber trench after the removal of the guns and associated racers. A deposit of roughly mortared bluestone and sandstone (149) was also identified at the southern end of the cut. These were tight against the southern edge of the cut and were thought to be the remains of a butt end wall for the racers. Both these deposits overlay a layer of loose yellow sand, gravel and pebbles (112) which appeared to be a bedding layer for the insertion of the stone racer blocks. This bedding layer overlay a more compact cement and pebble layer (141) which was the primary fill of the original racer cut.

The rear racer cut (066) survived in part at the northernmost end, but the robber trench (068) had destroyed most of the original cut. The main fill of the robber trench was a mixture of sandstone rubble and gravel in a matrix of dark brown clay loam (069). Within this matrix, there was a concentration of bluestone and sandstone blocks (120) lying within the eastern edge of the cut. The blocks were not bonded and although they appeared to form a square block, it was thought that they were part of the backfilling of the robber trench and that their shape was coincidence. Both these contexts overlay a sand and pebble mix with sandstone debris (152) which was very similar in form and colour to 112 in robber trench 083 and was thought to serve as a bedding layer. Below this bedding layer was another layer of mid yellow white sand and pebble mix (125) but this was not present through the whole robber trench. It was thought that this layer represented the primary fill of the original cut.

At the south of racer 066, an area of sandstone rubble mixed with gravel and mortar (150) was recorded, but no function or date was discernable.

At the western edge of racer 066, the end of a ceramic drain was noted. This was similar in

form to 121 in trench A but was not investigated. However, during investigation of paving 160, a ceramic drain 162 was noted running north-south. It was the same type and size as that in the western section of cut 066 and it is assumed to be the same feature. This drain sat within cut 161/097 and was filled by a brown clay loam with patches of sand (163/096). It is thought that as with the drains in trench A, this drain was associated with the gun platform.

The northern racers within this trench had also been completely robbed out. The front racer cut had been destroyed by robber trench 129 and was filled with a mid brown silty sandy loam with frequent inclusions of pebbles and gravel (128). Within this fill, there were two notable deposits. The first was situated in the north-east edge of the cut and was a deposit of angular stones with mortar adhering to them (133) which appeared to continue under the wall. These were thought to be part of the demolition debris after removal of the 1866 gun platforms. The other feature of note was a deposit of mortar (138). It sat in the base of the cut and was thought to be the remnants of mortar that held the stone blocks in place when they supported the metal racers. No bedding layers were found in this cut.

The rear racer trench was destroyed by robber trench 095. It was filled with a grey sandy gravel with occasional lumps of mortar and shell fragments (094). Within this context, there was a deposit of angular sandstone and bluestone fragments with a degraded concrete matrix (134) but this was thought to be part of the backfill of the robber trench. Also within this layer was a deposit of rubble (140) but this was also thought to be part of the demolition debris. Below this backfill were two further contexts in the base of the cut. A mid brown sandy silt with frequent inclusions of small rounded stones and gravel (139) was noted in the western edge of the cut, while in the north-east edge of the cut, an area of hard mortar (142) was noted and thought to be the remnants of the bonding that held the stone blocks in place. Further evidence for bonding of the stone blocks was noted on the eastern edge of this racer. Very small rounded pebbles contained in a degraded mortar matrix with occasional larger stones (153) followed the inner edge of the cut and was thought to be roughcast bonding for the inside edges of the stone blocks. At the southern end of the cut, there was a truncated wall constructed from bluestone (154). It survived to a height of three courses and was interpreted as a butt stop for the racers. Between the two racers, an area of angular stones up to 0.2 m in diameter within a mortar matrix (092/093) was interpreted as hard standing.

20th Century Activity

Only one structure was noted in this area relating to the period of Cload occupation. An L-shaped paved area (091) was located in the north-east corner of the trench. It was constructed of Stromness flagstones of varying shapes and sizes. It overlay the topsoil (090) and had been used as a chicken coup (J. Cload pers. comm.)

6.3 TRENCH C (*Figure 16*)

This trench was located on the eastern side of the glacis and was placed to investigate the large circular anomaly identified during geophysical survey. The trench encompassed the entire circular feature and measured 11.4 by 10.4 m. It was de-turfed by hand and then cleaned. Below the turf and topsoil (180) was the possible remains of a burial cairn (176).

This structure was oval shaped in plan and was constructed primarily of bluestone of variable sizes. However, on the outer edges, some yellow sandstone had also been used. The limits of this structure were, in general, well defined with a steep short angled edge. There were frequent patches of decaying stone which was very loose. The largest stones were concentrated in the south-west corner and were interpreted as possible kerbing stones. They followed the curve of the feature for a length of 4 m. Other possible areas of kerbing were also noted in the east and north-west areas. The structure had a longer, steeper east side, but this was more likely to be a result of the slope of the land. In the centre of the feature, there was an obvious depression which was also defined by stones standing on edge around its limits. This depression measured 1.6 m in diameter and may have been the remains of a chamber within the cairn. To the south of this feature, there was also a collection of stones with slightly longer slabs measuring 0.8 by 1 m. This may have been the result of disturbance or it could be another internal feature. This feature was planned and photographed before being backfilled. It was not excavated.

6.4 TRENCH D

This trench was located to the south of trench C, over the possible remains of a rectangular structure noted during geophysical survey. The trench measured 15 by 1 m and was orientated north-south. After removal of the turf and topsoil (179), a natural sandy subsoil (186) was noted. A few large stones were irregularly placed in this layer but there was no evidence of any structure. There was a difference in the natural subsoil and this was noted 6 m from the southern end of the trench. Given the lack of evidence in the trench, it is thought that this may have been responsible for the geophysical anomaly.

6.5 MAGAZINE (*Figure 3, 12, 13, 14 & 15*)

Work in this trench followed on from that undertaken in 1997. Original plans retrieved from the Royal Ordnance showed one set of steps in the south-west side of the magazine, but excavations in 1997 revealed a further set in the north-west. The top of this structure had not been fully excavated in 1997, and so this was investigated further. These steps (184) were poorly preserved with only a few sandstone blocks surviving. They measured approximately 2 m in height and were 1 m wide. The base step was still present and was badly worn. The cut (185) was clearly visible and the steps were set into the bedrock.

In accordance with the project brief, three sections of the magazine bank were investigated in order to construct a template that would allow the reconstruction of the northern bank which had been partially removed by John Cload. A 1 m wide section of the southern bank was de-turfed in order to retrieve the original profile of the ditch. Below the turf and topsoil, there was a layer of coarse rubble and mortar (135) which had been deliberately dumped by John Cload in order to construct a barrow run (J. Cload pers. comm.). Below this layer was a layer of dark grey brown loamy silt (137) which was interpreted as slippage from the bank. This overlay an orange brown loam (136), interpreted as the original turfed profile of the bank. It was this profile that was used as a template for the reconstruction of the northern bank.

The northern bank had been truncated at its eastern end by the later insertion of a vehicle inspection pit by John Cload. This allowed the investigation of the section in order to assess

its construction and upper profile. This section was cleaned back and recorded. The turf and topsoil (143) was found to overlay a thin layer of mid red brown loamy sandy gravel (144) which was interpreted as possible consolidation of the bank. This overlay a layer of decayed turfs (145) which in turn overlay the main make up of the bank (146). This layer comprised redeposited natural variable in colour which had been upcast after the magazine ditch had been dug out. All the above layers were cut, at a later date, by pit 148. This pit was U-shaped in profile and measured 0.8 m in width and 0.74 m in depth. It was filled with a mid grey brown loamy sand with occasional small subangular stones and frequent shale (147). A very modern glass bottle was found in the section although it was unclear whether this was merely intrusive as the section was lying open. It is, however, still clear that this pit was later than the formation of the bank.

The south-east corner of the bank was investigated in order to attempt a reconstruction of the corner and eastern bank. The section was very similar to that noted in the northern bank, although there appeared to be three different layers of redeposited natural. The turf and topsoil (165) was found to overlies possible consolidation of the bank (170). The consolidation material was a mid red brown loamy sand with high inclusions of gravel and it overlay the first layer of redeposited natural (166). This layer was a yellow grey gravel and bluestone mix and overlay an orange red gravel and bluestone mix (167). This, in turn, overlay the primary layer of the ditch, a brown black gravel and bluestone mix (168). These layers were identical in their texture and only varied in colour. It is thought that this may have been a result of different stages of build up of the bank or due to the fact that the upcast had been retrieved from different areas of the magazine ditch.

In the north-west corner of the magazine, the bank had been completely removed. Plans from the Royal Ordnance showed that the surviving south-west terminus had a rounded end, while the north-west terminus had a squared end. Once the template had been constructed from the southern bank, this was used to create the terminus in the north-west corner (177). This terminus was constructed using the material excavated from the magazine trench in 1997 and comprised largely of small bluestone fragments with occasional larger stones. This was then covered with the turfs from the gun platform excavations. Topsoil was inserted into the gaps in order that the turf would grow during the coming year.

7. DISCUSSION

The objectives of this season's work were achieved. All the gun platforms were stripped and excavated down to 1866 level. In addition, a number of features were noted to be of 1815 date. These earlier racers survived in varying stages of preservation. The best preserved was the most southerly as it survived to three courses and had only been truncated through its centre by the insertion of the 1866 racer. Two other early racers were noted in trench B, but these were in poor states of preservation and had been severely truncated by the 1866 refurbishment. However, it was still possible to see the curve in their build indicating that, as far as the 1815 guns were concerned, they conformed to the Royal Ordnance plan. In trench A, no evidence was recorded for the 1815 racers. During the excavation of the 1866 racer trenches, no evidence was found for earlier stone built racers and the only structures that could be dated to the earlier period were two stone built boxes between the front and rear 1866 robber trench cuts. These were originally thought to relate to the 1866 gun platforms but a number of factors suggested that they were earlier. Four stone built boxes were found in total, two in each trench. Although they were all located between the later front and rear racer

cuts, they were not uniformly aligned. Instead, they were all at different angles to the embrasures. This coupled together with the fact that one of the boxes underlay the hardcore placed during the 1866 refurbishment, indicated that they were of an earlier date. How, they related to the earlier racers, however, was not clear. It is possible that they acted as storage boxes for charges or powder in order that a small supply was instantly available if it was needed. If these were storage boxes, it is clear that they were replaced during the later refurbishment by indents in the enclosure wall.

An area of paving noted in the south-west corner of trench B was also thought to relate to the 1815 period of occupation. It was laid flush with one of the original racers and underlay the general gravel layer that had been used to cover the whole site during the later refurbishment.

The later refurbishment of the gun battery obviously had an effect on the earlier gun platforms, but it would appear that apart from the removal of the guns themselves and the use of the original retaining wall as a foundation for the new wall, there was no apparent attempt to remove the bulk of the fittings. The stone racers had only been destroyed by the cutting of new trenches for the larger guns and the paving was still partially intact. This differs greatly to the removal of the guns in the early 20th century, when robber trenches were dug to remove the entirety of the gun platforms. None of the stone blocks which held the metal racers were left and the original shape of the racer cuts was impossible to determine. However, it must be assumed that the cuts which were excavated in this season bear a very similar resemblance to the original cuts as the minimal effort would surely have been used to remove the guns. What can be said for sure is that the cuts were near identical to those drawn on the Royal Ordnance plans.

The finds retrieved from the excavations, revealed the period of occupation expected. There was an abundance of 19th century material, most relating to domestic use by those stationed at the gun battery. There was also a large amount of 20th century material which can be explained by the fact that the battery was used as a local dumping ground throughout this century (J. Cload pers. comm.).

Work in the magazine was restricted to completing work started in 1997 and to construct templates for the bank in order that it could be reconstructed. The top of the north-west set of steps was excavated but was found to be in a state of poor preservation. A section was cut across the southern bank and from that a template was constructed. This was then used to create the north-west terminus of the bank. It is planned that this will be used to reconstruct the whole bank. Work was also undertaken in the south-east corner where another template was constructed from the information seen in section. This will also be used at a later date to reconstruct that corner of the bank.

Work was also undertaken on the eastern side of the glacis where two geophysical anomalies had been identified. A possible corner of a rectangular structure turned out to be of no archaeological significance. However, the large circular anomaly appeared to be the remains of a possible prehistoric cairn. Around the outer edges, kerbing was noted and a possible cell, defined by upright stones, was noted in the centre of the structure. It was clear that this was not a clearance cairn, as it was mainly constructed of bluestone, and the local stone encountered during ploughing is sandstone. This feature was not excavated as it lay out with the brief of this project, but it is interesting to note that despite the extensive remodelling of the gun battery, no damage appears to have been done to the monument.

8. ACKNOWLEDGEMENTS

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APPENDIX 1: SITE REGISTERS

Context Record

Number	Area	Description
090	A/B	Dark brown sandy loam - general cleaning layer
091	B	L-shaped paved area
092	B	Mortar and angular stone mix - hardcore
093	B	Same as 092
094	B	Grey sandy gravel - Fill of cut 095
095	B	Cut of robber trench
096	B	Same as 163
097	B	Same as 161
098	A	Dark grey brown sandy silt - Fill of cut 099
099	A	Cut of robber trench
100	A	Cut of robber trench
101	A	Mid grey brown sandy silt - Fill of cut 100
102		Number not used
103	A	Linear depression
104	A	Possible remnants of paving
105	B	Original 1815 battery wall footings
106	A	Same as 172
107	A	Same as 173
108	A	Original 1815 battery wall footings
109	A	Footings for 20 th century greenhouse
110	A/B	Bedrock
111	B	Light yellow brown mortar within cut 083
112	B	Yellow sand and gravel - basal fill of cut 083
113	A	Possible revetment within cut 099
114	A	Demolition debris within 116
115	B	Mortared wall - remnants of 1815 racer
116	A	Gravel backfill of cut 117
117	A	Cut of robber trench
118	A	Stone setting between cuts 099 and 117
119		Number not used
120	B	Redeposited bluestone within cut 066
121	A	Cut for ceramic field drain 122
122	A	Ceramic field drain associated with robber trench cut 100
123	A	Mottled clay - fill of cut 121

124	A	Brown grey sandy silt - fill of drain 122
125	B	White yellow mortar pebble mix - levelling within cut 066
126	A	Cut of robber trench
127	A	Mid brown silty sand - backfill of cut 126
128	B	Mid brown silt sand loam - fill of cut 129
129	B	Cut of robber trench
130	A	Light grey brown silty sand - buried ground surface
131	A	Stone setting between cuts 100 and 126
132	A/B	Natural subsoil
133	B	Angular stones within cut 129
134	B	Rubble concentration within 094
135	Mag	Modern dump of coarse rubble and mortar
136	Mag	Orange brown loam - make up for magazine bank
137	Mag	Dark grey brown loamy silt - slippage from magazine bank
138	B	Mortar deposit at base of cut 129
139	B	Mid brown sandy silt - fill in base of cut 095
140	B	Rubble lens within backfill 094
141	B	Sand, pebble and cement mix - primary fill of cut 083
142	B	Hard mortar deposit at base of cut 095
143	Mag	Turf and topsoil
144	Mag	Mid red brown silty gravel - consolidation of bank
145	Mag	Decayed turfs - buried ground surface
146	Mag	Light green grey and mid yellow brown sandy clay - make up of bank
147	Mag	Mid grey brown sandy loam - fill of modern pit
148	Mag	Cut of pit in magazine bank
149	B	Mortared bluestone and sandstone blocks - butt end of cut 083
150	B	Sandstone rubble mixed with gravel and mortar
151	B	Truncated remains of 1815 racer
152	B	Light yellow sand and pebble mix - bedding layer in cut 066
153	B	Mortar and pebble mix - roughcast concrete
154	B	Truncated wall at south end of cut 095 - butt end
155	B	Truncated remains of 1815 racer
156	B	Stone setting between cuts 095 and 129
157	B	Stone setting between cuts 066 and 083
158	B	Brown loam overlying paving 160
159	B	Lime mortar spread overlying paving 160
160	B	Paving associated with 1815 racers
161	B	Cut for drain 162
162	B	Ceramic drain within cut 161

163	B	Brown loamy clay and fractured bedrock - backfill of drain cut 161
164	B	Bedrock
165	Mag	Turf and topsoil
166	Mag	Redeposited natural forming make up of magazine bank
167	Mag	Redeposited natural forming make up of magazine bank
168	Mag	Redeposited natural forming make up of magazine bank
169	Mag	Decayed turfs - buried ground surface
170	Mag	Mid red brown silty gravel - consolidation of bank
171		Number not used
172	A	Possible cut for drain
173	A	Dark brown silty loam - fill of cut 172
174	A	Light yellow decayed sandstone
175	A	Bedrock
176	C	Possible prehistoric burial cairn
177	Mag	Created terminus of magazine bank
178	A	Light yellow decayed sandstone
179	D	Turf and topsoil
180	C	Turf and topsoil
181	A	Cut for drain possibly associated with racer cut 099
182	A	Ceramic drain within cut 181
183	A	Dark brown silty loam - fill of cut 181
184	Mag	Remains of northern stairs in magazine bank
185	Mag	Cut for stairs 184
186	D	Natural subsoil

Drawing Record

Number	Scale	Description
1	1:20	Area plan of trench A - northern end
2	1:20	Area plan of trench A - middle
3	1:20	Area plan of trench A - southern end
4	1:20	Area plan of trench B - northern end
5	1:20	Area plan of trench B -middle
6	1:20	Plan of rubble 113
7	1:10	North facing section through cut 099
8	1:10	North facing section through cut 100
9	1:20	Plan of rubble 114
10	1:20	Instrument survey of gun battery
11	1:20	Plan of south-east corner of trench B

12	1:10	South facing section through cut 100
13	1:20	Plan of 115
14	1:10	North facing section through cut 117
15	1:10	North facing section through cut 126
16	1:20	Instrument survey of cuts 099 and 117
17	1:50	West facing section of magazine ditch
18	1:20	Profile across cuts 099 and 117
19	1:10	South facing section through cut 129
20	1:10	North facing section through cut 095
21	1:20	Instrument survey of cuts 100 and 126
22	1:20	West facing section through northern magazine bank
23	1:20	Profile through cuts 100 and 126
24	1:20	Plan of cuts 095 and 129 and associated features
25	1:20	Plan of 160
26	1:20	Instrument survey of cuts 066 and 083
27	1:20	Profile of cuts 066 and 083
28	1:20	Profile of cuts 095 and 129
29	1:20	West facing section of eastern magazine bank
30	1:20	North facing section of southern magazine bank
31	1:10	SW facing section of linear feature 106
32	1:20	Plan of cairn 176
33	1:20	Plan of trench D
34	1:20	Profile of reconstructed bank in north-west corner of magazine
35	1:20	Plan of drain 182
36	1:20	South facing section of stairs 184
37	1:20	North facing section of stairs 184

Photographic Record

Colour Print # 1

Number	Facing	Description
1	S	Removal of spoil heap from 1997 trench
2	S	Removal of spoil heap from 1997 trench
3	N	Removal of spoil heap from 1997 trench
4	N	Removal of spoil heap from 1997 trench
5	S	Cleaning of trench A
6	S	Cleaning of trench A
7	S	Cleaning of trench B
8	NW	Cleaning of trench B

9	NW	Cleaning of trench B
10	N	Cleaning of previously excavated racer cut - trench B
11	N	Cleaning of previously excavated racer cut - trench B
12	NE	Paving 091
13	NE	Paving 091
14	S	Battery wall, wall 105 and rubble spreads 092 and 093
15	S	Battery wall, wall 105 and rubble spreads 092 and 093
16	N	Trench B showing 1997 excavations
17	N	Trench B showing 1997 excavations
18	S	Racer cut 095 - pre ex
19	S	Robber trench cut 095 - pre ex
20	N	Working shot - trench A with Crockness tower in background
21	N	Working shot - trench A with Crockness tower in background
22	N	Linear feature 103 - pre ex
23	N	Linear feature 103 - pre ex
24	NE	Linear feature 106 - pre ex
25	NE	Linear feature 106 - pre ex
26	N	Crockness martello tower
27	N	Crockness martello tower
28	SW	Glacis and Hackness martello tower
29	SW	Glacis and Hackness martello tower
30	E	Northern gun ports of gun battery
31	N	Gun battery from martello tower
32	N	Gun battery from martello tower
33	E	Modern canon on martello tower
34	N	Robber trench cuts 099 and 100 - pre ex
35	N	Robber trench cuts 099 and 100 - pre ex
36	SE	Working shot - trench B

Colour Print # 2

Number	Facing	Description
1	SE	Racer cuts 066 and 083 fully excavated
2	SE	Racer cuts 066 and 083 fully excavated
3	NW	Racer cut 066 fully excavated
4	NW	Racer cut 066 fully excavated
5	N	Working shot of excavation of cut 095
6	N	Working shot of excavation of cut 100
7	NE	Racer cut 083 fully excavated

8	NE	Racer cut 083 fully excavated
9	N	South facing section of cut 100
10	S	Northern half of cut 100 fully excavated
11	S	Northern half of cut 100 fully excavated
12	S	Robber trench cut 095 work in progress
13	S	Robber trench cut 095 work in progress
14	S	Robber trench cut 095 work in progress
15	S	Robber trench cut 095 work in progress
16	N	South facing section of cut 100
17	W	Southern half of cut 100 fully excavated
18	E	Rubble 114
19	NE	Racer 115 truncated by 066
20	SW	Racer 115 truncated by 066
21	S	Section through 116, 117 and 118
22	S	Section through 098 and 099
23	S	Southern end of wall 105
24	S	Southern end of wall 105
25	N	Northern end of wall 105
26	N	Northern end of wall 105
27	E	Bluestone blocks 120
28	E	Bluestone blocks 120
29	W	Drain 122 within cut 121
30	SW	Robber trench cut 100 fully excavated
31	S	Working shot in trench B
32	N	Working shot in trench A
33	S	Basal fill (125) within cut 066
34	S	Basal fill (125) within cut 066
35	E	Robber trench cuts 095 and 129 work in progress
36	E	Robber trench cuts 095 and 129 work in progress

Colour Print # 3

Number	Facing	Description
1	E	Robber trench cut 117 fully excavated
2	E	Robber trench cut 117 fully excavated
3	E	Robber trench cut 117 fully excavated
4	W	Robber trench cut 117 fully excavated
5	W	Robber trench cut 117 fully excavated
6	W	Robber trench cut 117 fully excavated
7	W	Stone setting 118
8	W	Robber trench cut 117 and stone setting 118

9	S	Sondage in base of cut 099
10	S	Sondage in base of cut 099
11	S	North facing section of cut 126
12	S	North facing section of cut 126
13	SE	SE edge of magazine ditch
14	SE	SE edge of magazine ditch
15	N	Basal fill (125) of racer cut 066
16	N	Basal fill (125) of racer cut 066
17	NE	Rubble fill 133
18	NE	Rubble fill 133
19	N	South facing section of cut 129
20	N	South facing section of cut 129
21	S	North facing section of cut 095
22	S	North facing section of cut 095
23	E	Basal fill (138) of cut 129
24	E	Basal fill (138) of cut 129
25	SW	Working shot trench B
26	W	Racer cut 083 excavated down to basal fill
27	E	Racer cut 083 excavated down to basal fill
28	N	South facing section of cut 095
29	N	South facing section of cut 095
30	E	General shot of cuts 095 and 129
31	E	General shot of cuts 095 and 129
32	S	General shot of cuts 095 and 129
33	Down	Basal fill (138) of cut 129
34	E	Basal fill (142) of cut 095
35	S	Robber trench cuts 100 and 126 fully excavated
36	S	Robber trench cuts 100 and 126 fully excavated
37	N	Crockness martello tower from gun battery

Colour Print # 4

Number	Facing	Description
1	E	Northern half of section through magazine bank
2	E	Southern half of section through magazine bank
3	E	General view of section through magazine bank
4	SE	General view of section through magazine bank
5	NE	General view of section through magazine bank
6	E	Pit 148 in magazine bank
7	SE	Remnants of 1815 racer 155 in cut 095

8	SE	Remnants of 1815 racer 155 in cut 095
9	Down	Wall 154 at southern end of cut 095
10	SE	Wall 154 at southern end of cut 095
11	N	Stone setting 156
12	N	Stone setting 156
13	E	West facing section of eastern magazine bank
14	E	West facing section of eastern magazine bank
15	S	North facing section of southern magazine bank
16	S	North facing section of southern magazine bank
17	S	Stone setting 1547
18	W	Stone setting 157
19	W	Racer 151
20	W	Racer 151
21	SW	Butt end wall 149
22	SW	Butt end wall 149
23	E	Area of rubble 150
24	E	Area of rubble 150
25	SW	Paving 160 and drain 161
26	SW	Paving 160 and drain 161
27	SW	Paving 160 and drain 161
28	SW	Paving 160 and drain 161
29	NE	Paving 160 and drain 161
30	NE	Paving 160 and drain 161
31	N	Trench D fully excavated
32		General working shot
33		General working shot
34		General working shot
35		General working shot
36		General working shot
37		General working shot

Colour Print # 5

Number	Facing	Description
1	NE	South west facing section of drain cut 172
2	NE	South west facing section of drain cut 172
3	E	Cairn 176
4	E	Cairn 176
5	E	Cairn 176

6	E	Cairn 176
7	NW	Reconstructed bank in magazine trench
8	SE	Reconstructed bank in magazine trench
9	E	Cairn 176
10	E	Cairn 176
11	E	Cairn 176
12	E	Cairn 176
13	E	Cairn 176
14	NE	Cairn 176
15	NE	Cairn 176
16	SE	Cairn 176
17	SE	Cairn 176
18	W	Northern stairs in magazine trench
19	W	Northern stairs in magazine trench
20	N	Detail of south-west kerbing in cairn 176
21	W	Detail of centre of cairn 176
22	NE	Drain 182 post ex
23	NE	Drain 182 post ex
24	W	Working shot of reconstruction of magazine bank
25	W	Working shot of reconstruction of magazine bank
26	N	Working shot of reconstruction of magazine bank

Black and White # 1

Number	Facing	Description
1	S	Removal of spoil heap from 1997 trench
2	S	Removal of spoil heap from 1997 trench
3	N	Removal of spoil heap from 1997 trench
4	N	Removal of spoil heap from 1997 trench
5	S	Cleaning of trench A
6	S	Cleaning of trench A
7	S	Cleaning of trench B
8	NW	Cleaning of trench B
9	NW	Cleaning of trench B
10	NE	Paving 091
11	NE	Paving 091
12	S	Battery wall, wall 105 and rubble spreads 092 and 093
13	S	Battery wall, wall 105 and rubble spreads 092 and 093
14	N	Trench B showing 1997 excavations
15	N	Trench B showing 1997 excavations

16	S	Robber trench cut 095 - pre ex
17	S	Robber trench cut 095 - pre ex
18	N	Working shot - trench A with Crockness tower in background
19	N	Working shot - trench A with Crockness tower in background
20	N	Robber trench cuts 099 and 100 pre ex
21	N	Robber trench cuts 099 and 100 pre ex
22	N	Linear feature 103 - pre ex
23	N	Linear feature 103 - pre ex
24	NE	Linear feature 106 - pre ex
25	NE	Linear feature 106 - pre ex
26	N	Crockness martello tower
27	N	Crockness martello tower
28	SW	Glacis and Hackness martello tower
29	SW	Glacis and Hackness martello tower
30	E	Northern gun ports of gun battery
31	N	Gun battery from martello tower
32	N	Gun battery from martello tower
33	E	Modern canon on martello tower
34	E	Modern canon on martello tower
35	S	Hackness Martello tower
36	N	Gun battery from martello tower

Black and White # 2

Number	Facing	Description
1	SE	Racer cuts 066 and 083 fully excavated
2	SE	Racer cuts 066 and 083 fully excavated
3	SE	Racer cuts 066 and 083 fully excavated
4	NW	Racer cut 066 fully excavated
5	NW	Racer cut 066 fully excavated
6	N	Working shot of excavation of cut 095
7	N	Working shot of excavation of cut 100
8	NE	Racer cut 083 fully excavated
9	NE	Racer cut 083 fully excavated
10	N	Robber trench 099 part excavated
11	N	Robber trench 099 part excavated
12	S	Northern half of cut 100 fully excavated
13	S	Northern half of cut 100 fully excavated
14	S	Robber trench cut 095 work in progress

15	S	Robber trench cut 095 work in progress
16	S	Robber trench cut 095 work in progress
17	S	Robber trench cut 095 work in progress
18	N	South facing section of cut 100
19	W	Southern half of cut 100 fully excavated
20	E	Rubble 114
21	NE	Racer 115 truncated by 066
22	SW	Racer 115 truncated by 066
23	S	Section through 116, 117 and 118
24	S	Section through 116, 117 and 118
25	S	Section through 098 and 099
26	S	Section through 098 and 099
27	N	Southern end of wall 105
28	N	Southern end of wall 105
29	S	Northern end of wall 105
30	S	Northern end of wall 105
31	E	Bluestone blocks 120
32	E	Bluestone blocks 120
33	W	Drain 122 within cut 121
34	SW	Robber trench cut 100 fully excavated
35	S	Basal fill (125) within cut 066
36	S	Basal fill (125) within cut 066
37	E	Robber trench cuts 095 and 129 with rubble fills 133 and 134

Black and White # 3

Number	Facing	Description
1	E	Robber trench cut 117 fully excavated
2	E	Robber trench cut 117 fully excavated
3	E	Robber trench cut 117 fully excavated
4	W	Robber trench cut 117 fully excavated
5	W	Robber trench cut 117 fully excavated
6	W	Stone setting 118
7	W	Stone setting 118
8	W	Robber trench cut 117 and stone setting 118
9	W	Robber trench cut 117 and stone setting 118
10	N	Robber trench cut 117 fully excavated
11	N	Robber trench cut 117 fully excavated
12	S	Sondage in base of cut 099
13	S	North facing section of cut 126
14	S	North facing section of cut 126
15	SE	SE edge of magazine ditch
16	SE	SE edge of magazine ditch
17	N	Basal fill (125) of racer cut 066
18	N	Basal fill (125) of racer cut 066
19	NE	Rubble fill 133
20	NE	Rubble fill 133
21	N	South facing section of cut 129
22	N	South facing section of cut 129
23	S	North facing section of cut 095
24	S	North facing section of cut 095
25	E	Basal fill (138) of cut 129
26	E	Basal fill (138) of cut 129
27	W	Racer cut 083 excavated down to basal fill
28	E	Racer cut 083 excavated down to basal fill
29	N	South facing section of cut 095
30	N	South facing section of cut 095
31	E	General shot of cuts 095 and 129
32	E	General shot of cuts 095 and 129
33	S	General shot of cuts 095 and 129
34	Down	Basal fill (138) of cut 129
35	E	Basal fill (142) of cut 095
36	S	Robber trench cuts 100 and 126 fully excavated

Black and White # 4

Number	Facing	Description
1	S	Robber trench cuts 100 and 126 fully excavated
2	S	Robber trench cuts 100 and 126 fully excavated
3	E	Northern half of section through magazine bank
4	E	Southern half of section through magazine bank
5	E	General view of section through magazine bank
6	SE	General view of section through magazine bank
7	NE	General view of section through magazine bank
8	E	Pit 148 in magazine bank
9	SE	Remnants of 1815 racer 155 in cut 095
10	SE	Remnants of 1815 racer 155 in cut 095
11	Down	Wall 154 at southern end of cut 095
12	SE	Wall 154 at southern end of cut 095
13	N	Stone setting 156
14	N	Stone setting 156
15	E	West facing section of eastern magazine bank
16	E	West facing section of eastern magazine bank
17	S	North facing section of southern magazine bank
18	S	North facing section of southern magazine bank
19	S	Stone setting 157
20	W	Stone setting 157
21	W	Racer 151
22	W	Racer 151
23	SW	Butt end wall 149
24	SW	Butt end wall 149
25	E	Area of rubble 150
26	E	Area of rubble 150
27	SW	Paving 160 and drain 161
28	SW	Paving 160 and drain 161
29	SW	Paving 160 and drain 161
30	SW	Paving 160 and drain 161
31	NE	Paving 160 and drain 161
32	NE	Paving 160 and drain 161
33	N	Trench D fully excavated
34	NE	South west facing section of drain cut
35	NE	South west facing section of drain cut
36	E	Cairn 176

Black and White # 5

Number	Facing	Description
1	NW	Reconstructed bank in magazine trench
2	SE	Reconstructed bank in magazine trench
3	E	Cairn 176
4	E	Cairn 176
5	E	Cairn 176
6	E	Cairn 176
7	E	Cairn 176
8	E	Cairn 176
9	NE	Cairn 176
10	NE	Cairn 176
11	SE	Cairn 176
12	SE	Cairn 176
13	W	Northern stairs in magazine trench
14	W	Northern stairs in magazine trench
15	N	Detail of south-west kerbing in cairn 176
16	W	Detail of centre of cairn 176
17	NE	Drain 182 post ex
18	NE	Drain 182 post ex
19	W	Working shot of reconstruction of magazine bank
20	W	Working shot of reconstruction of magazine bank
21	N	Working shot of reconstruction of magazine bank

Colour Slide # 1

Number	Facing	Description
1	S	Removal of spoil heap from 1997 trench
2	S	Removal of spoil heap from 1997 trench
3	N	Removal of spoil heap from 1997 trench
4	N	Removal of spoil heap from 1997 trench
5	S	Cleaning of trench A
6	S	Cleaning of trench A
7	S	Cleaning of trench B
8	NW	Cleaning of trench B
9	NW	Cleaning of trench B
10	NE	Paving 091

11	NE	Paving 091
12	S	Battery wall, wall 105 and rubble spreads 092 and 093
13	S	Battery wall, wall 105 and rubble spreads 092 and 093
14	N	Trench B showing 1997 excavations
15	N	Trench B showing 1997 excavations
16	S	Robber trench cut 095 - pre ex
17	S	Robber trench cut 095 - pre ex
18	N	Working shot - trench A with Crockness tower in background
19	N	Working shot - trench A with Crockness tower in background
20	N	Robber trench cuts 099 and 100 pre ex
21	N	Robber trench cuts 099 and 100 pre ex
22	N	Linear feature 103 - pre ex
23	N	Linear feature 103 - pre ex
24	NE	Linear feature 106 - pre ex
25	NE	Linear feature 106 - pre ex
26	N	Crockness martello tower
27	N	Crockness martello tower
28	SW	Glacis and Hackness martello tower
29	SW	Glacis and Hackness martello tower
30	E	Northern gun ports of gun battery
31	N	Gun battery from martello tower
32	N	Gun battery from martello tower
33	E	Modern canon on martello tower
34	E	Modern canon on martello tower
35	S	Hackness Martello tower
36	S	Hackness Martello tower
37	N	Gun battery from martello tower

Colour Slide # 2

Number	Facing	Description
1	SE	Racer cuts 066 and 083 fully excavated
2	SE	Racer cuts 066 and 083 fully excavated
3	SE	Racer cuts 066 and 083 fully excavated
4	NW	Racer cut 066 fully excavated
5	NW	Racer cut 066 fully excavated
6	N	Working shot of excavation of cut 095
7	N	Working shot of excavation of cut 100
8	NE	Racer cut 083 fully excavated

9	NE	Racer cut 083 fully excavated
10	N	Robber trench 099 part excavated
11	N	Robber trench 099 part excavated
12	S	Northern half of cut 100 fully excavated
13	S	Northern half of cut 100 fully excavated
14	S	Robber trench cut 095 work in progress
15	S	Robber trench cut 095 work in progress
16	S	Robber trench cut 095 work in progress
17	S	Robber trench cut 095 work in progress
18	N	South facing section of cut 100
19	W	Southern half of cut 100 fully excavated
20	E	Rubble 114
21	NE	Racer 115 truncated by 066
22	SW	Racer 115 truncated by 066
23	S	Section through 116, 117 and 118
24	S	Section through 116, 117 and 118
25	S	Section through 098 and 099
26	S	Section through 098 and 099
27	N	Southern end of wall 105
28	N	Southern end of wall 105
29	S	Northern end of wall 105
30	S	Northern end of wall 105
31	E	Bluestone blocks 120
32	E	Bluestone blocks 120
33	W	Drain 122 within cut 121
34	SW	Robber trench cut 100 fully excavated
35	S	Basal fill (125) within cut 066
36	S	Basal fill (125) within cut 066
37	E	Robber trench cuts 095 and 129 with rubble fills 133 and 134
38	E	Robber trench cuts 095 and 129 with rubble fills 133 and 134

Colour Slide # 3

Number	Facing	Description
1	E	Robber trench cut 117 fully excavated
2	E	Robber trench cut 117 fully excavated
3	E	Robber trench cut 117 fully excavated
4	W	Robber trench cut 117 fully excavated
5	W	Robber trench cut 117 fully excavated

6	W	Stone setting 118
7	W	Stone setting 118
8	W	Robber trench cut 117 and stone setting 118
9	W	Robber trench cut 117 and stone setting 118
10	N	Robber trench cut 117 fully excavated
11	N	Robber trench cut 117 fully excavated
12	S	Sondage in base of cut 099
13	S	North facing section of cut 126
14	S	North facing section of cut 126
15	SE	SE edge of magazine ditch
16	SE	SE edge of magazine ditch
17	N	Basal fill (125) of racer cut 066
18	N	Basal fill (125) of racer cut 066
19	NE	Rubble fill 133
20	NE	Rubble fill 133
21	N	South facing section of cut 129
22	N	South facing section of cut 129
23	S	North facing section of cut 095
24	S	North facing section of cut 095
25	E	Basal fill (138) of cut 129
26	E	Basal fill (138) of cut 129
27	W	Racer cut 083 excavated down to basal fill
28	E	Racer cut 083 excavated down to basal fill
29	N	South facing section of cut 095
30	N	South facing section of cut 095
31	E	General shot of cuts 095 and 129
32	E	General shot of cuts 095 and 129
33	S	General shot of cuts 095 and 129
34	Down	Basal fill (138) of cut 129
35	E	Basal fill (142) of cut 095
36	S	Robber trench cuts 100 and 126 fully excavated
37	S	Robber trench cuts 100 and 126 fully excavated

Colour Slide # 4

Number	Facing	Description
1	S	Robber trench cuts 100 and 126 fully excavated
2	S	Robber trench cuts 100 and 126 fully excavated
3	E	Northern half of section through magazine bank

4	E	Southern half of section through magazine bank
5	E	General view of section through magazine bank
6	SE	General view of section through magazine bank
7	NE	General view of section through magazine bank
8	E	Pit 148 in magazine bank
9	SE	Remnants of 1815 racer 155 in cut 095
10	SE	Remnants of 1815 racer 155 in cut 095
11	Down	Wall 154 at southern end of cut 095
12	SE	Wall 154 at southern end of cut 095
13	N	Stone setting 156
14	N	Stone setting 156
15	E	West facing section of eastern magazine bank
16	E	West facing section of eastern magazine bank
17	S	North facing section of southern magazine bank
18	S	North facing section of southern magazine bank
19	S	Stone setting 157
20	W	Stone setting 157
21	W	Racer 151
22	W	Racer 151
23	SW	Butt end wall 149
24	SW	Butt end wall 149
25	E	Area of rubble 150
26	E	Area of rubble 150
27	SW	Paving 160 and drain 161
28	SW	Paving 160 and drain 161
29	SW	Paving 160 and drain 161
30	SW	Paving 160 and drain 161
31	NE	Paving 160 and drain 161
32	NE	Paving 160 and drain 161
33	N	Trench D fully excavated
34	NE	South west facing section of drain cut
35	NE	South west facing section of drain cut
36	E	Cairn 176

Colour Slide # 5

Number	Facing	Description
1	NW	Reconstructed bank in magazine trench
2	SE	Reconstructed bank in magazine trench

3	E	Cairn 176
4	E	Cairn 176
5	E	Cairn 176
6	E	Cairn 176
7	E	Cairn 176
8	E	Cairn 176
9	NE	Cairn 176
10	NE	Cairn 176
11	SE	Cairn 176
12	SE	Cairn 176
13	W	Northern stairs in magazine trench
14	W	Northern stairs in magazine trench
15	N	Detail of south-west kerbing in cairn 176
16	W	Detail of centre of cairn 176
17	NE	Drain 182 post ex
18	NE	Drain 182 post ex
19	W	Working shot of reconstruction of magazine bank
20	W	Working shot of reconstruction of magazine bank
21	N	Working shot of reconstruction of magazine bank

APPENDIX 2: FINDS CATALOGUE *Julie Franklin (Figure 17)*

Number	Ctxt	Material	Qty	Description
163	090 A/B	Pottery	147	Various 19 th and 20 th century sherds. Stoneware bottles, china, cups and plates, brown glazed teapot sherds; 3 frags of coarse red earthenware; one cream glazed earthenware sherd possibly 18 th century, beach abraded. Two plate sherds decorated with anchors, one with maker's mark " H Aynsley & Co, Longton. " Generally utilitarian, plain decoration with blue line round rim, few transfer printed, occasional sponge ware or press moulded.
164	090 A/B	Glass	46	5 window sherds; various vessel sherds, including a complete jar and a " California Fig Syrup Co. " bottle (20 th century); a stopper marked "Holbrook & Co."; bottle sherds marked " LETICHE "; various screw top bottles, jars and older bottles and jars.
165	090 A	Metal	1	Bullet, small pointed. Metal appears red with green surface.
166	090 A	Ceramic	1	Marble, bottle stopper. Diameter 16 mm.
167	090 A	Clay Pipe	1	Pipe bowl. Large bell shaped with moulded knobs all over. No makers mark. Narrow stem bone. 19 th century.
168	090 A	Cu Alloy	1	Three armed brass fitting, cast with a decorative interwoven design and hole in the middle, possibly for some other decorative object or emblem; loop at the end of one arm and hooks at the end of the other two; possibly part of 19 th century military regalia.

169	090 A	Stone	1	Possible part of whetstone. Pointed and smoothed with several cuts diagonally across surface.
170	090 B	Metal	1	Used gun shell, metal appears greenish grey, letters stamped on bottom end - RM - 38 - VH .
171	090 B	Metal	1	Fork. Reddish metal with green surface, possibly hall marked. Makers mark - "R. BRO-" Four pronged fork, 19 th / 20 th century.
172	090 B	Clay Pipe	1	Bowl sherd with moulded decoration in form of bull's head across front seam of pipe. Letters across top. "RA - OB" Initials stand for "Royal Antidiluvian Order of Buffalos. 19 th century. Several examples found all over England, all with initials and relief bull's head.
173	090 A	Fe	1	Buckle. Rectangular framed with central bar - bent.
174	090 A	Fe	1	Heel iron, horseshoe shaped for small horse/pony. W. 92 mm, L. 86 mm.
175	090 A	Fe	1	Gun trigger. Hollow iron object with latch attached to a spring, inside a butt end. Possibly a toy gun (J. Cload Pers. comm.)
176	068	Pottery	10	1 stoneware; 9 white china, 4 transfer printer, 1 sponged.
177	068	Bone	1	Button. Round concave button with four holes and an incised ring. Diameter 19 mm.
178	068	CBM	3	Brick fragments.
179	068	Pb	1	Strip of lead, possibly unused filler for fixing iron racers to stone blocks.
180	082	Pottery	1	White china, transfer printed.
181	094	Clay Pipe	1	Mouthpiece, narrow bone, unglazed.
182	094	Pottery	20	10 white china, 2 hand painted; 4 stoneware; 1 brown glazed teapot; 4 red earthenware; 1 beach sherd of cream glazed earthen ware - 18 th century?
183	094	Glass	2	1 orange bottle sherd; 1 stopper; 1 dish rim. Modern looking.
184	094	CBM	2	Bricks - two ends of coarse red bricks, no frogs. Possibly original 19 th century.
185	094	CBM	1	Pan tile, very smooth and modern - drain?
186	094	CBM	1	Drain pipe rim sherd, brown salt glazed similar to drain in situ in racer cuts.
187	094	Pb	1	Long misshapen piece of lead.
188	094	Fe	1	Long U-shaped object, possible fire tongs.
189	094	Fe	1	Long shaped plate, possible fire fender.
190	094	Fe	1	Cog from piece of machinery. Diameter 60 mm.
191	094	Fe	1	Round object with reinforcing circumferal ridges. Possible door from stove.
192	094	Fe	9	Various large pieces of sheet iron, iron pipes, rods, nails and unidentifiable fittings.
193	098	Pottery	17	12 white china, 1 transfer printed; 1 stoneware; 3 brown glazed; 1 beach sherd of cream and brown glazed earthenware.
194	098	Glass	1	Green bottle sherd.
195	098	Stone	2	Adjoining sherds of pink and grey granite with a flattened face on one side. Same granite as large anchor blocks, not local.

196	098	CBM	1	Large coarse piece of brick.
197	098	Cu Alloy	1	Screw thread, broken at top. L 72 mm, D 10 mm.
198	098	Pb	1	Strip. L 94 mm, W 16 mm.
199	098	Pb	1	Sheet lead. Twisted and melted. L 50 mm, W 41 mm.
200	098	Pb	1	Window frame, L 86 mm.
201	098	Fe	1	Nail, small head, long shaft. Head W 8 mm, L 110 mm.
202	098	Fe	2	Large screws, HW 22 mm, L 92 mm.
203	101	CBM	12	Remains of at least five bricks, mortared, shallow moulded frog.
204	101	Clay Pipes	2	Plain stems, narrow bone.
205	101	Pottery	6	5 white china, 1 transfer printed and badly glazed; 1 beach sherd of brown glazed earthenware.
206	101	Fe and organic	1	Paint brush head of iron and wood with fibrous bristles still in place. No handle. Bristles clogged with paint of navy grey colour.
207	101	Fe	2	Short square rods of iron, 68 x 20 x 20 mm.
208	101	Fe	1	Thick cylindrical object, solid. L 67 mm, D 29 mm.
209	101	Fe	2	Chisels or wedges, L 106, 95 mm, W 9, 8 mm.
210	101	Fe	1	Nail with small head and wedge shaped point. HW 8 mm, L 94 mm.
211	101	Fe	1	Bent nail shaft? L 80 mm.
212	101	Fe	2	Large, thick ended round pegs. HW 30 mm, L 80 mm, shaft W 23 mm.
213	116	Pottery	1	White china, abraded possibly from beach.
214	116	CBM	1	Coarse corner of brick.
215	116	Stone	3	Granite pieces from large granite anchor blocks.
216	116	Bone	1	Button. Concave with four holes and incised circumferal line. D 19 mm.
217	116	Glass	2	1 thick green bottle base with deep indent and laminating on surface. Dates to battery or before; 1 thin clear vessel sherd, more modern.
218	116	Pb	2	Molten pieces of lead, probably waste from racer fittings.
219	116	Cu alloy	1	Cap from large shell that had been fired, bent and twisted. D 22 mm.
220	116	Cu alloy	1	Tack. Round head with cross ridge on top, square shaft, bent at end, ending in wedge shaped point. HW 10 mm, L 68 mm.
221	116	Fe	1	Part of a tool or fitting.
222	116	Fe	1	Nail with round head, long shaft, bent half way down. L 147 mm, HW 12 mm.
223	116	Fe	1	Large nail with square head and square shaft. HW 20 mm, L 54 mm.
224	116	Fe	1	Nail shaft with round section. L 33 mm.
225	124	Metal	1	Cartridge from gun? Cylindrical object with flat copper knob at one end. Inside there is a lard like substance under which is a layer of woven material.
226	125	Pottery	2	1 brown glazed teapot sherd; 1 white china with press moulded and blue glazed relief decoration of a thistle.
227	127	Pottery	2	1 white china; 1 brown glazed earthenware; both abraded and probably from beach.

228	127	Glass	4	3 clear window sherds; 1 clear vessel sherd. All modern.
229	127	Bone	1	Concave button with four holes. Incised circumferal line and indent bored into centre. D 18 m, thickness 3 mm.
230	127	CBM	1	Brick fragment with mortar.
231	127	CBM	1	Drain pipe rim sherd, similar to drains within racer cuts. 1" thick. Keyed lines inside mouth, brown salt glaze.
232	127	Pb	1	Strip with wedge shaped profile and ragged narrow edge, possibly used as filler. L 149 mm, W 30 mm.
233	127	Pb	1	Strip with wedge shaped profile. Similar to 232. L 100 mm, W 28 mm.
234	127	Pb	1	Thick sheet with one straight edge and one ragged. Similar to 232 and 233. L 112 mm, W 38 mm.
235	127	Pb	1	Thin piece of sheet lead 36 x 12 mm.
236	127	Pb	1	Wedge shaped piece of lead with iron corrosion along flat edge. Similar to 232, 233 and 234. L 56 mm, W 29 mm.
237	127	Fe	1	Large bolt with flat round head, thick round shaft and blunt end. L 82 mm, HW 32 mm, Shaft W 22 mm.
238	127	Fe	1	Small tack, flat round head. L 26 mm, HW 4 mm.
239	127	Fe	1	Small tack, flat round head. L 32 mm, HW 5 mm.
240	127	Fe	1	Small tack, flat round head, point missing. L 24 mm, HW 7 mm.
241	127	Fe	1	Nail shaft, thick, square. L 37 mm.
242	127	Fe	1	Rod, round section, pointed at one end, broken at other. Possibly a nail shaft. No corrosion, probably modern.
243	127	Fe	1	Small ragged strip of sheet iron. L 79 mm, W 18 mm, thickness 2 mm.
244	128	Pottery	20	2 stoneware bottle bases; 1 brown glazed teapot sherd; 11 white china, 2 sponge decorated, 1 hand painted with anchor design and word "CROWN", 1 printed with design and letters "STEAM-"; 2 coarse earthenware; 4 brown and cream glazed earthenware.
245	128	Glass	4	1 thick green bottle base; 3 clear vessel sherds. All modern.
246	128	CBM	3	Brick fragments with frogs.
247	128	CBM	1	Drain pipe sherd. Thickness 20 mm. Purple, brown salt glaze.
248	128	CBM	1	Brick or thick coarse floor tile sherd. Thickness 51 mm.
249	128	Fe	1	Buckle. Simple D-framed made of a bent rod with join at back straight edge.
250	128	Fe	1	Plough. Cutting end of a horse drawn plough.
251	128	Fe	1	Bolt. Large with round domed head. L 380 mm, HW 31 mm, Shaft W 20 mm.
252	128	Fe	1	Lid from a rectangular can with a lip all the way around and round corners.
253	128	Fe	1	Long hollow conical object made of thin sheet iron. L 92 mm, D 12 mm.
254	128	Fe	1	Part of a stove door? Thick sheet iron with a raised section and cleft along one edge.
255	128	Fe	1	Curved piece of thick sheet iron possibly from an iron pipe. 122 x 57 mm.

256	128	Fe	1	Thin sheet of iron in three pieces.
257	128	Metal	1	White metal object in shape of two rings with a joining plate in the middle cast in one piece.
258	090	Fe	7	Various lengths of WWII submarine netting. Lengths of steel wire twisted into ropes. Thickness of complete strands 18 mm.
259	158	Glass	1	Kick from the base of a large green bottle.
260	158	Pottery	25	Various sherds of white china, 3 feathered plate rims, 5 blue transfer printed, 1 sponge decorated, 3 hand painted simple designs.
261	179	Pottery	2	White china, 1 transfer printed.
262	180	Glass	1	Small piece of decorative clear glass with a blue layer on the inside and white strips inlaid half way through giving appearance of blue and white stripes. Probably modern